

Appendix 3. Age Table Data Dictionary

Table 3-1 provides the terms used in the *Age* table and the AGE_MIN/MAX fields of the *SGMC_Geology* feature class. The table is based on the 2016 International Chronostratigraphic Chart (v2016/04), which is available at <http://www.stratigraphy.org/> in a slightly modified form.

Table 3-1. Age table data dictionary.

[MIN_MA, minimum Ma (mega annum or millions of years ago); MAX_MA, maximum Ma (mega annum or millions of years ago)]

EON	ERA	PERIOD	EPOCH	AGE	MIN_MA	MAX_MA
Phanerozoic					0	542
Phanerozoic	Cenozoic				0	66
Phanerozoic	Cenozoic	Quaternary			0	2.58
Phanerozoic	Cenozoic	Quaternary	Holocene		0	0.0117
Phanerozoic	Cenozoic	Quaternary	Pleistocene		0.0117	2.58
Phanerozoic	Cenozoic	Quaternary	Pleistocene	Late-Pleistocene	0.0117	0.126
Phanerozoic	Cenozoic	Quaternary	Pleistocene	Middle-Pleistocene	0.126	0.781
Phanerozoic	Cenozoic	Quaternary	Pleistocene	Calabrian	0.781	1.8
Phanerozoic	Cenozoic	Quaternary	Pleistocene	Gelasian	1.8	2.58
Phanerozoic	Cenozoic	Tertiary			2.58	66
Phanerozoic	Cenozoic	Tertiary-Neogene			2.58	23.03
Phanerozoic	Cenozoic	Tertiary-Neogene	Pliocene		2.58	5.333
Phanerozoic	Cenozoic	Tertiary-Neogene	Late-Pliocene	Piacenzian	2.58	3.6
Phanerozoic	Cenozoic	Tertiary-Neogene	Early-Pliocene	Zanclean	3.6	5.333
Phanerozoic	Cenozoic	Tertiary-Neogene	Miocene		5.333	23.03
Phanerozoic	Cenozoic	Tertiary-Neogene	Late-Miocene		5.333	11.63
Phanerozoic	Cenozoic	Tertiary-Neogene	Late-Miocene	Messinian	5.333	7.246
Phanerozoic	Cenozoic	Tertiary-Neogene	Late-Miocene	Tortonian	7.246	11.63
Phanerozoic	Cenozoic	Tertiary-Neogene	Middle-Miocene		11.63	15.97
Phanerozoic	Cenozoic	Tertiary-Neogene	Middle-Miocene	Serravallian	11.63	13.82
Phanerozoic	Cenozoic	Tertiary-Neogene	Middle-Miocene	Langhian	13.82	15.97
Phanerozoic	Cenozoic	Tertiary-Neogene	Early-Miocene		15.97	23.03
Phanerozoic	Cenozoic	Tertiary-Neogene	Early-Miocene	Burdigalian	15.97	20.44
Phanerozoic	Cenozoic	Tertiary-Neogene	Early-Miocene	Aquitania	20.44	23.03
Phanerozoic	Cenozoic	Tertiary-Paleogene			23.03	66
Phanerozoic	Cenozoic	Tertiary-Paleogene	Oligocene		23.03	33.9
Phanerozoic	Cenozoic	Tertiary-Paleogene	Late-Oligocene	Chattian	23.03	28.1
Phanerozoic	Cenozoic	Tertiary-Paleogene	Early-Oligocene	Rupelian	28.1	33.9
Phanerozoic	Cenozoic	Tertiary-Paleogene	Eocene		33.9	56
Phanerozoic	Cenozoic	Tertiary-Paleogene	Late-Eocene	Priabonian	33.9	37.8
Phanerozoic	Cenozoic	Tertiary-Paleogene	Middle-Eocene		37.8	47.8
Phanerozoic	Cenozoic	Tertiary-Paleogene	Middle-Eocene	Bartonian	37.8	41.2
Phanerozoic	Cenozoic	Tertiary-Paleogene	Middle-Eocene	Lutetian	41.2	47.8
Phanerozoic	Cenozoic	Tertiary-Paleogene	Early-Eocene	Ypresian	47.8	56
Phanerozoic	Cenozoic	Tertiary-Paleogene	Paleocene		56	66
Phanerozoic	Cenozoic	Tertiary-Paleogene	Late-Paleocene	Thanetian	56	59.2
Phanerozoic	Cenozoic	Tertiary-Paleogene	Middle-Paleocene	Selandian	59.2	61.6

Table 3-1. Age table data dictionary.—Continued

[MIN_MA, minimum Ma (mega annum or millions of years ago); MAX_MA, maximum Ma (mega annum or millions of years ago)]

EON	ERA	PERIOD	EPOCH	AGE	MIN_MA	MAX_MA
Phanerozoic	Cenozoic	Tertiary-Paleogene	Early-Paleocene	Danian	61.6	66
Phanerozoic	Mesozoic				66	252.23
Phanerozoic	Mesozoic	Cretaceous			66	145.0
Phanerozoic	Mesozoic	Cretaceous	Late-Cretaceous		66	100.5
Phanerozoic	Mesozoic	Cretaceous	Late-Cretaceous	Maastrichtian	66	72.3
Phanerozoic	Mesozoic	Cretaceous	Late-Cretaceous	Campanian	72.3	83.8
Phanerozoic	Mesozoic	Cretaceous	Late-Cretaceous	Santonian	83.8	86.8
Phanerozoic	Mesozoic	Cretaceous	Late-Cretaceous	Coniacian	86.8	90.1
Phanerozoic	Mesozoic	Cretaceous	Late-Cretaceous	Turonian	90.1	93.9
Phanerozoic	Mesozoic	Cretaceous	Late-Cretaceous	Cenomanian	93.9	100.5
Phanerozoic	Mesozoic	Cretaceous	Early-Cretaceous		100.5	145.0
Phanerozoic	Mesozoic	Cretaceous	Early-Cretaceous	Albian	100.5	113
Phanerozoic	Mesozoic	Cretaceous	Early-Cretaceous	Aptian	113	125
Phanerozoic	Mesozoic	Cretaceous	Early-Cretaceous	Barremian	125	129.4
Phanerozoic	Mesozoic	Cretaceous	Early-Cretaceous	Hauterivian	129.4	132.9
Phanerozoic	Mesozoic	Cretaceous	Early-Cretaceous	Valanginian	132.9	139.8
Phanerozoic	Mesozoic	Cretaceous	Early-Cretaceous	Berriasian	139.8	145.0
Phanerozoic	Mesozoic	Jurassic			145.0	201.5
Phanerozoic	Mesozoic	Jurassic	Late-Jurassic		145.0	164.5
Phanerozoic	Mesozoic	Jurassic	Late-Jurassic	Tithonian	145.0	153
Phanerozoic	Mesozoic	Jurassic	Late-Jurassic	Kimmeridgian	153	158.3
Phanerozoic	Mesozoic	Jurassic	Late-Jurassic	Oxfordian	158.3	164.5
Phanerozoic	Mesozoic	Jurassic	Middle-Jurassic		164.5	175.1
Phanerozoic	Mesozoic	Jurassic	Middle-Jurassic	Calloviaian	164.5	167.3
Phanerozoic	Mesozoic	Jurassic	Middle-Jurassic	Bathonian	167.3	169.6
Phanerozoic	Mesozoic	Jurassic	Middle-Jurassic	Bajocian	169.6	171.7
Phanerozoic	Mesozoic	Jurassic	Middle-Jurassic	Aalenian	171.7	175.1
Phanerozoic	Mesozoic	Jurassic	Early-Jurassic		175.1	201.5
Phanerozoic	Mesozoic	Jurassic	Early-Jurassic	Toarcian	175.1	183.4
Phanerozoic	Mesozoic	Jurassic	Early-Jurassic	Pliensbachian	183.4	191.8
Phanerozoic	Mesozoic	Jurassic	Early-Jurassic	Sinemurian	191.8	199.6
Phanerozoic	Mesozoic	Jurassic	Early-Jurassic	Hettangian	199.6	201.5
Phanerozoic	Mesozoic	Triassic			201.5	252.23
Phanerozoic	Mesozoic	Triassic	Late-Triassic		201.5	237
Phanerozoic	Mesozoic	Triassic	Late-Triassic	Rhaetian	201.5	208.5
Phanerozoic	Mesozoic	Triassic	Late-Triassic	Norian	208.5	227
Phanerozoic	Mesozoic	Triassic	Late-Triassic	Carnian	227	237
Phanerozoic	Mesozoic	Triassic	Middle-Triassic		237	247.2
Phanerozoic	Mesozoic	Triassic	Middle-Triassic	Ladinian	237	242
Phanerozoic	Mesozoic	Triassic	Middle-Triassic	Anisian	242	247.2
Phanerozoic	Mesozoic	Triassic	Early-Triassic		247.2	252.23
Phanerozoic	Mesozoic	Triassic	Early-Triassic	Olenikian	247.2	251.2
Phanerozoic	Mesozoic	Triassic	Early-Triassic	Induan	251.2	252.23

Table 3-1. Age table data dictionary.—Continued

[MIN_MA, minimum Ma (mega annum or millions of years ago); MAX_MA, maximum Ma (mega annum or millions of years ago)]

EON	ERA	PERIOD	EPOCH	AGE	MIN_MA	MAX_MA
Phanerozoic	Paleozoic				252.23	542
Phanerozoic	Paleozoic	Permian			252.23	299.05
Phanerozoic	Paleozoic	Permian	Lopingian		252.23	260.2
Phanerozoic	Paleozoic	Permian	Lopingian	Changhsingian	252.23	254.21
Phanerozoic	Paleozoic	Permian	Lopingian	Wuchiapingian	254.21	260.2
Phanerozoic	Paleozoic	Permian	Guadalupian		260.2	272.8
Phanerozoic	Paleozoic	Permian	Guadalupian	Capitanian	260.2	265.5
Phanerozoic	Paleozoic	Permian	Guadalupian	Wordian	265.5	269.3
Phanerozoic	Paleozoic	Permian	Guadalupian	Roadian	269.3	272.8
Phanerozoic	Paleozoic	Permian	Cisuralian		272.8	299.05
Phanerozoic	Paleozoic	Permian	Cisuralian	Kungurian	272.8	284.1
Phanerozoic	Paleozoic	Permian	Cisuralian	Artinskian	284.1	290.36
Phanerozoic	Paleozoic	Permian	Cisuralian	Sakmarian	290.36	295.18
Phanerozoic	Paleozoic	Permian	Cisuralian	Asselian	295.18	299.05
Phanerozoic	Paleozoic	Carboniferous			299.05	359.3
Phanerozoic	Paleozoic	Carboniferous	Pennsylvanian		299.05	323.6
Phanerozoic	Paleozoic	Carboniferous	Late-Pennsylvanian		299.05	307.1
Phanerozoic	Paleozoic	Carboniferous	Late-Pennsylvanian	Gzhelian	299.05	303.8
Phanerozoic	Paleozoic	Carboniferous	Late-Pennsylvanian	Kasimovian	303.8	307.1
Phanerozoic	Paleozoic	Carboniferous	Middle-Pennsylvanian	Moscovian	307.1	315.4
Phanerozoic	Paleozoic	Carboniferous	Early-Pennsylvanian	Bashkirian	315.4	323.6
Phanerozoic	Paleozoic	Carboniferous	Mississippian		323.6	359.3
Phanerozoic	Paleozoic	Carboniferous	Late-Mississippian	Serpukhovian	323.6	331.1
Phanerozoic	Paleozoic	Carboniferous	Middle-Mississippian	Visean	331.1	347.1
Phanerozoic	Paleozoic	Carboniferous	Early-Mississippian	Tournaisian	347.1	359.3
Phanerozoic	Paleozoic	Devonian			359.3	422.4
Phanerozoic	Paleozoic	Devonian	Late-Devonian		359.3	384.3
Phanerozoic	Paleozoic	Devonian	Late-Devonian	Famennian	359.3	373.8
Phanerozoic	Paleozoic	Devonian	Late-Devonian	Frasnian	373.8	384.3
Phanerozoic	Paleozoic	Devonian	Middle-Devonian		384.3	394.5
Phanerozoic	Paleozoic	Devonian	Middle-Devonian	Givetian	384.3	388.5
Phanerozoic	Paleozoic	Devonian	Middle-Devonian	Eifelian	388.5	394.5
Phanerozoic	Paleozoic	Devonian	Early-Devonian		394.5	422.4
Phanerozoic	Paleozoic	Devonian	Early-Devonian	Emsian	394.5	410.2
Phanerozoic	Paleozoic	Devonian	Early-Devonian	Pragian	410.2	413.6
Phanerozoic	Paleozoic	Devonian	Early-Devonian	Lockhovian	413.6	422.4
Phanerozoic	Paleozoic	Silurian			422.4	445.3
Phanerozoic	Paleozoic	Silurian	Pridoli		422.4	425.3
Phanerozoic	Paleozoic	Silurian	Ludlow		425.3	427.9
Phanerozoic	Paleozoic	Silurian	Ludlow	Ludfordian	425.3	426.5
Phanerozoic	Paleozoic	Silurian	Ludlow	Gorstian	426.5	427.9
Phanerozoic	Paleozoic	Silurian	Wenlock		427.9	434.2

Table 3-1. Age table data dictionary.—Continued

[MIN_MA, minimum Ma (mega annum or millions of years ago); MAX_MA, maximum Ma (mega annum or millions of years ago)]

EON	ERA	PERIOD	EPOCH	AGE	MIN_MA	MAX_MA
Phanerozoic	Paleozoic	Silurian	Wenlock	Homerian	427.9	431.2
Phanerozoic	Paleozoic	Silurian	Wenlock	Sheinwoodian	431.2	434.2
Phanerozoic	Paleozoic	Silurian	Llandovery		434.2	445.3
Phanerozoic	Paleozoic	Silurian	Llandovery	Telychian	434.2	439.6
Phanerozoic	Paleozoic	Silurian	Llandovery	Aeronian	439.6	442
Phanerozoic	Paleozoic	Silurian	Llandovery	Rhuddanian	442	445.3
Phanerozoic	Paleozoic	Ordovician			445.3	487.3
Phanerozoic	Paleozoic	Ordovician	Late-Ordovician		445.3	459.3
Phanerozoic	Paleozoic	Ordovician	Late-Ordovician	Hirnantian	445.3	446.6
Phanerozoic	Paleozoic	Ordovician	Late-Ordovician	Katian	446.6	453.7
Phanerozoic	Paleozoic	Ordovician	Late-Ordovician	Sandbian	453.7	459.3
Phanerozoic	Paleozoic	Ordovician	Middle-Ordovician		459.3	471.4
Phanerozoic	Paleozoic	Ordovician	Middle-Ordovician	Darriwillian	459.3	468.4
Phanerozoic	Paleozoic	Ordovician	Middle-Ordovician	Dapingian	468.4	471.4
Phanerozoic	Paleozoic	Ordovician	Early-Ordovician		471.4	487.3
Phanerozoic	Paleozoic	Ordovician	Early-Ordovician	Floian	471.4	479.1
Phanerozoic	Paleozoic	Ordovician	Early-Ordovician	Tremadocian	479.1	487.3
Phanerozoic	Paleozoic	Cambrian			487.3	542
Phanerozoic	Paleozoic	Cambrian	Furongian		487.3	497
Phanerozoic	Paleozoic	Cambrian	Middle-Cambrian		497	521
Phanerozoic	Paleozoic	Cambrian	Early-Cambrian		521	542
preCambrian					542	4600
preCambrian-Proterozoic					542	2500
preCambrian-Proterozoic	Neoproterozoic				542	1000
preCambrian-Proterozoic	Neoproterozoic	Ediacaran			542	635
preCambrian-Proterozoic	Neoproterozoic	Cryogenian			635	720
preCambrian-Proterozoic	Neoproterozoic	Tonian			720	1000
preCambrian-Proterozoic	Mesoproterozoic				1000	1600
preCambrian-Proterozoic	Mesoproterozoic	Stenian			1000	1200
preCambrian-Proterozoic	Mesoproterozoic	Ectasian			1200	1400
preCambrian-Proterozoic	Mesoproterozoic	Calymmian			1400	1600
preCambrian-Proterozoic	Paleoproterozoic				1600	2500
preCambrian-Proterozoic	Paleoproterozoic	Statherian			1600	1800
preCambrian-Proterozoic	Paleoproterozoic	Orosirian			1800	2050
preCambrian-Proterozoic	Paleoproterozoic	Rhyacian			2050	2300
preCambrian-Proterozoic	Paleoproterozoic	Siderian			2300	2500
preCambrian-Archean					2500	4000
preCambrian-Archean	Neoproterozoic				2500	2800
preCambrian-Archean	Mesoarchean				2800	3200
preCambrian-Archean	Paleoarchean				3200	3600
preCambrian-Archean	Eoarchean				3600	4000
preCambrian-Hadean					4000	4600